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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/528,457	03/17/2000	Mukesh Dalal	020431.0671	4373

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EXAMINER
MCALLISTER, STEVEN B

ART UNIT	PAPER NUMBER
3627	

DATE MAILED: 03/26/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.	Applicant(s)
09/528,457	Dalal
Examiner	**Art Unit**
Steven McAllister	3627

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on *Dec 23, 2002* .

2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1-47* is/are pending in the application.

4a) Of the above, claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) *1-47* is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) ☒ The proposed drawing correction filed on *Oct 30, 2002* is: a) ☒ approved b) ☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) ☐ All b) ☐ Some* c) ☐ None of:

1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

a) ☐ The translation of the foreign language provisional application has been received.

15) ☐ 'Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____
4) ☐ Interview Summary (PTO-413) Paper No(s). _____
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

DETAILED ACTION

In view of further consideration, PROSECUTION IS HEREBY REOPENED. The office action is set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

(2) request reinstatement of the appeal.

If reinstatement of the appeal is requested, such request must be accompanied by a supplemental appeal brief, but no new amendments, affidavits (37 CFR 1.130, 1.131 or 1.132) or other evidence are permitted. See 37 CFR 1.193(b)(2).

Response to Amendment

Regarding the unentered amendment of 11/7/02 (including drawing corrections), upon further review since there are no amendments to the claims and since the amendments are directed solely toward clarification, the amendment has been entered.

Drawings

1. The corrected or substitute drawings were received on 11/7/02. These drawings are approved.

Claim Rejections - 35 USC § 101

2. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3. Claims 1-47 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. 35 U.S.C. 101 requires that statutory subject matter be useful, concrete and tangible.

Claims 17-31 are non-statutory because they are not tangible because it recites a method having no nexus with a tangible technological item such as a computer.

Claims 17-32 are non-statutory because they are not concrete since the outcome of the method cannot be assured. Claim 17 recites "generating a global solution to a global optimization problem according to the first optimal value, the second optimal value, the first value, and the second value". However, the output is not assured since there can be a plurality of global solutions which satisfy the threshold values. Further, the output is not assured because it is not clear how to use the first optimal value and the second optimal value in addition to the first and second threshold values to determine a global solution.

It is noted that requiring the global solution to be Pareto-optimal as recited in claim 7 may limit the range of global solutions in some cases, but it does not lead to a concrete global solution. In the example shown in the specification, for instance, the applicant notes that all global solutions are Pareto-optimal. Similarly, the limitations of claims 8 and 9 do not remedy

the lack of concreteness. They require the global solution to be determined using one or more fairness criteria. However, it is noted that each of the fairness criteria typically return a different result. Further, the claims are not concrete because of the recitation of applying "one or more" criteria. Any criteria or combination thereof can be applied, producing different results. Further, the claims are not concrete because it is not clear how a plurality of fairness criteria would be combined to produce a result. It appears that the criteria could be combined or considered together in many different ways producing many different results. Finally, the claims are not concrete because it is not clear all four values would be used in the fairness criteria (even in a single criteria) to produce a concrete result. The specification is unclear on how more than two values would be used and it appears that several methods of combination could be used producing different results.

Claims 1-16 and 33-47 are non-statutory as being concrete since claims 1-16 are drawn to a system operable to practice the non-statutory method of claims 17-32 and claims 33-47 are drawn to software which practices the non-statutory method of claims 17-32.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 1-47 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Claims 1, 17 and 33 recite "generating a global solution to a global optimization problem in accordance with the first optimal value, the second optimal value, the first value, and the second value", but the specification does not disclose how to generate a global solution according to these four values. While the specification, including Figs. 4 and 5 describe a process using first and second values comprising the threshold values T1 and T2, it does not enable the use of four values to find a global solution. One of ordinary skill in the art would not be able to practice the claimed invention without undue experimentation.

Claims 8, 9, 24, 25, 40 and 41 recite generating the global solution according to "one or more fairness criteria". However, the specification does not show how a first optimal value and a second optimal value would be combined with first and second values in determining the global solution using the fairness criteria. It shows only how two values may be applied to the fairness criteria. One of ordinary skill in the art would not be able to practice the claimed invention without undue experimentation.

6. Claims 1-47 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had

possession of the claimed invention. Claims 1, 17 and 33 recite generating a global solution to a global optimization problem in accordance with "the first optimal value, the second optimal value, the first value and the second value". This recitation was within the original claims. The original claims recited generating the solution using the optimal values or the first and second values, not all four. There does not appear to be a written description of the above limitation in the application as filed. While the specification does disclose that first and second optimal values can be generated according to the optimization problems in addition to the first and second values received from the parties, it does not describe using all four values in obtaining the global solution. The specification describes using the first and second values in determining the global solution or using the first and second optimal values in determining the solution. It appears that the only description of the use of the first and second optimal values when first and second values are also used is shown on pages 9 and 12. Page 9, lines, 14-16 and page 12, lines 10-13 state that the broker "may, instead or in addition to receiving a threshold value from a party 12, generate an optimal value according the optimization problem for part 12, to which solution values will be compared." Mere comparing has no effect on the determination of global solution and even assuming that global solution was compared to the optimal values, it does not appear that the solution would be "in accordance with" the first and second optimal values. Further, the specification in all examples and descriptions shows only how two values, either the first and second or the first optimal and second optimal, are used in determination of the global solution.

7.The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claims 1-47 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1, 17 and 33 recite a value "according to the ... problem". However, it is not clear what relationship is defined by "according to". Similarly, "in accordance with" is not clear.

Claims 4, 20, and 36 are unclear because they recite that the first value is selected "from the group consisting of ... the first optimal value". It does not appear that this was contemplated in the specification (it would mean somehow using the first optimal value as both the first optimal value and the first value).

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

10. Claims 1-10, 15-26, and 31-42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Thiessen (5,495,412).

Theissen shows accessing first and second optimization problems and threshold values from first and second parties, respectively, and generating a global solution to a global optimization problem (see abstract and Fig. 1). Theissen does not show determining first and second optimal values according to the first and second optimization problems, respectively. However, it would have been an obvious matter of design choice to determine first and second optimal values and solve the problem according to them since the specification does not show that this step is for any particular reason or solves a particular problem and it appears that the method would work equally well in either configuration.

It is further noted that were it found that the method containing the additionally claimed steps were patently distinct from the method without those steps, an election of species would be required.

As to claim 19, Thiessen shows constraints relating to global variables.

As to claim 21, Thiessen shows using linear programming to generate the global problem (abstract).

As to claim 22, Thiessen shows generating a global solution satisfying the two values (abstract).

As to claim 23, Thiessen shows that the global solution is generated as a Pareto-optimal solution (col. 6, line 57).

As to claims 24 and 25, Thiessen shows that the global solution is generated using the fairness criteria of equal distribution (col. 10, lines 23-26).

As to claim 26, Thiessen discloses iteratively accessing additional first and second values and generating an additional global solution.

As to claim 31, Thiessen discloses mediating the negotiation substantially simultaneously with the negotiation between the parties.

As to claim 32, Thiessen discloses implementing the method on one or more computers.

As to claims 1-10, 15 and 16, Thiessen discloses the brokerage system for accomplishing the steps of the method of claims 17-26, 31 and 32.

As to claims 33-42, and 47, Thiessen inherently discloses software to accomplish the steps of the method of claims 17-26, 31 and 32 since it is disclosed that the method is accomplished via a plurality of computers and it is necessary for the computers to use such software to accomplish the method.

As to claims 11, 12, 27, 28, 43 and 44, Thiessen discloses communicating possible alternative solutions to the parties, and receiving and applying filtering information comprising a weighted preferences approach from the parties. Thiessen does not disclose accomplishing these steps after the computation of the global solution. However, it would have been an obvious matter of design choice to modify the method of Thiessen by accomplishing the filtering steps after the global solution had been computed since the applicant does not state that accomplishing the filtering in this manner at this time is for any particular reason or solves a particular problem and it appears that the method would work equally well in either configuration.

As to claims 13, 14, 29, 30, 45, and 46, Thiessen discloses communicating solutions to the parties and receiving selection information. It does not disclose choosing the solution via an auction approach. However, it is notoriously old and well known to use an auction to decide the owner of a particular right (in this case the right to choose the final solution). It would have been obvious to one of ordinary skill in the art to modify the method of Thiessen by auctioning the right to select from the acceptable, optimized solutions in order to efficiently assign that right by providing it to the party that values it most highly.

Response to Arguments

11. Applicant's arguments filed 11/7/02 have been fully considered but they are not persuasive.

As to the 112 1st enablement rejection of claims 1-47, applicant argues that the specification enables limitation in question. However, while it is agreed that the specification may enable determining first and second optimum values while have also having first and second values received from the parties, generating a global solution in accordance with all four is not enabled. Enabling having all four values is not the same as enabling using those values in the determination of the global solution. No disclosure of a methodology for using them in the determination has been shown.

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven B. McAllister whose telephone number is (703) 308-7052.

Steven B. McAllister

March 14, 2003